

bled constantly. They are reported in detail and their minute anatomy described and depicted. The tumor parenchyma of these growths is made up of an increase in connective tissue and vessels, and according to the preponderance of one or the other element they may be termed fibroma, angioma or fibro-angioma. They originate from the tissue of the gland stratum of the nose.

---

**Papilloma of the Nose.**—CALLISON (*Laryngoscope*, March, 1916) reports the detailed study of a true papilloma or papillary fibroid springing from the region of the middle turbinate, bulla and infundibulum, in a colored female forty years of age.

---

**Safety-pin Expelled from the Esophagus into the Rhinopharynx During Anesthesia.**—KAUFMAN (*Laryngoscope*, September, 1916) reports the case of a female, aged nineteen years, who swallowed an open safety-pin which was located by roentgen ray at about four and a half inches down the esophagus. Ether was administered and caused much retching and vomiting. Thorough exploration of the esophagus revealed only a few punctate hemorrhages but no pin. It was assumed that the pin had passed into the stomach, but roentgen-ray inspection of the stomach did not reveal the pin. Dr. Bird then roentgen-rayed the head, and detected the pin lodged in the postnasal space, when he removed it with little difficulty.

---

**Treatment of Traumatic Salivary Fistula of the Parotid by Immobilization.**—PIETRI (*Rev. de laryngol., d'otol. et de rhinol.*, March 15, 1916) describes a number of cases of salivary fistula following gunshot wounds, and details the various treatments instituted. None of them, it is said, can compare with the efficiency of simple absolute repose of the jaws, and feeding the patient with liquids through a tube, the treatment requiring several weeks of patience. Some twenty to thirty cases were observed and cured, and some of the most characteristic of them are pictured in the context.

## HYGIENE AND PUBLIC HEALTH

---

UNDER THE CHARGE OF

MILTON J. ROSENAU, M.D.,

PROFESSOR OF PREVENTIVE MEDICINE AND HYGIENE, HARVARD MEDICAL SCHOOL,  
BOSTON, MASSACHUSETTS,

AND

JOHN F. ANDERSON, M.D.,

FORMERLY DIRECTOR OF THE HYGIENIC LABORATORY, PUBLIC HEALTH SERVICE,  
WASHINGTON, D. C.

---

**Dietary Deficiency as the Etiological Factor in Pellagra.**—VEDDER (*Arch. Int. Med.*, August 1, 1916, xxviii, No. 2) presents the conception of deficiency diseases which has been formed during the study

of beriberi and scurvy. This conception is that there are certain hitherto unknown chemical substances called vitamins which are present in small, varying amounts in foodstuffs. A definite supply of these substances is necessary to maintain normal metabolism, and if a group of people live on a diet deficient in any one of these vitamins the corresponding deficiency disease is produced in a certain number of these people. In the case of beriberi, people living exclusively on over-milled rice, which is deficient in the beriberi preventing vitamins, develop the disease. If a group of people live for a period on food deficient in scurvy vitamins, a number of them will develop scurvy. A deficiency disease is very different from malnutrition, for the scurvy patients' diet may contain an adequate amount of proteins, fats, carbohydrates and inorganic salts and yet may lack certain definite chemical substances, the vitamins, which prevent scurvy. Each individual requires a definite quantity of these vitamins to maintain normal metabolism and this amount varies with the individual. Taking into consideration these facts in respect to known deficiency diseases, scurvy and beriberi, the author puts the query, "Is it possible to consider pellagra as a deficiency disease?" He considers the evidence on this point under the following heads: (1) What analogies exist between pellagra and the two proved deficiency diseases, beriberi and scurvy? (2) Can the evidence pointing toward infection be reasonably explained according to a deficiency hypothesis? (3) Is any deficiency demonstrated in the diet of pellagrins? (4) Can the great increase in pellagra during recent years be explained by the deficiency hypothesis? (1) Pellagra shows great similarity to beriberi and scurvy with regard to clinical and pathological phenomena. The condition of the gums and mouth, the gastro-intestinal lesions, the nervous symptoms in pellagra and scurvy show marked similarity. There are also similarities existing between pellagra and beriberi. The condition of the intestine is somewhat alike in these two diseases, and considerable likeness in the lesions of the nervous system and in the symptomatology referable to the nervous system has been noted. Analogies exist between the epidemiologic data in pellagra and beriberi, both being closely associated with poverty and poor diet. Both these diseases are extraordinarily frequent in institutions, especially hospitals for the insane. The history of the investigations as to the cause of these two diseases is alike in many respects. Although all these analogies prove nothing definite yet they are very suggestive in considering the question of whether pellagra is a deficiency disease. (2) The evidence pointing toward pellagra as an infection may be explained if the hypothesis that pellagra is due to a dietary deficiency be assumed. It may seem impossible that the very pronounced lesions caused by the disease are due to a mere dietary deficiency but the pathologic condition observed in other deficiency diseases, namely, scurvy and beriberi is just as severe. Another piece of evidence pointing to pellagra as an infectious disease is the tendency to self-limitation of the attacks in the absence of specific therapy and presumably without any change in the defective diet that produced the disease. Since it has not been determined which foods contain the necessary vitamins to prevent pellagra it might be possible for the patient to receive some nourishment which has supplied the deficiency and therefore caused improvement. The converse of

this proposition has also been stated that pellagra patients sometimes become worse and die in spite of the fact that they are having apparently an excellent diet. But this diet may have been deficient in the necessary vitamins or the patient may have been unable to assimilate them. Furthermore, it is an authenticated fact that patients with dry beriberi often die although they are fed on the proper diet because the disease has progressed to such a point that death is imminent. The fact that pellagra appears in the spring and improves during the summer and fall to recur again the next spring points distinctly toward the dietary hypothesis and not toward the infection theory as no known infection acts in this way while beriberi acts exactly in this way. This action of the disease is thought to be due to the dietary habits of the people, that is, the poor live chiefly on flour, cornmeal, canned goods and salt meat in the winter and such diet after several months produces the lesions which appear in the spring. When fresh vegetables and fruits appear in the late spring and early summer, the deficiency is remedied and the condition improved. Although the statement that in about 90 per cent. of the cases studied there was personal contact or association with a previous case of pellagra seems to be strongly in favor of the infectious nature of the disease, it is really of little significance, for 43.5 per cent. of these contact cases have occurred among members of the same family who have presumably the same diet. As to the remaining 46.5 per cent., where contact with a case outside the family has been demonstrated, it may be said that pellagra is so common in many parts of the south that really every one has come into contact or associated with a case of pellagra. The fact that a very large part of the population has been in contact with cases without developing the disease takes away from the importance of contact as an etiologic factor as does the fact that doctors, nurses and attendants in closest contact seldom acquire the disease. Density of population seems to bear no relation to the spread of pellagra, as in Spartanburg, S. C., the mill villages present a rate of 142 cases per 10,000, while the rest of the city population living under the same conditions of congestion gives only 29 cases per 10,000 inhabitants. The greater number of cases in the mill villages is explainable if it is granted that pellagra is a deficiency disease, as the population of these villages is a homogeneous group of people of the same economic status living on a poor class of food. The Pellagra Commission collected considerable evidence to show that proximity of domicile was an important factor in the incidence of pellagra and that, since this was true, the disease must be of infectious origin. They found that new cases of the disease developed almost exclusively in small foci within which one or more cases of the disease already existed, the greatest number occurring in the first zone, the next in the second and the least in the third. However, it seems that this incidence of cases can be explained if the disease is caused by a dietary deficiency as the majority of people living in the house with a pellagra patient, that is, those included in Zone 1, would be exposed to the same deficiency of diet. The large number of the cases in Zone 2 is explained by the fact that pellagra is commoner among the poor than among the well-to-do and the poor people live in the same part of a town or village and so are practically segregated. Therefore there would naturally be more cases in the neighborhood immediately

surrounding the house where a case existed than there would be in a remote and more prosperous section of the city. While there is a tendency for pellagra to occur in that part of a community having primitive systems of disposal rather than in the part having proper sewage systems, this proves nothing, for the poorer sections which have the less developed systems, are the sections where poverty and, consequently, a poorer dietary exist. The commission has shown a tendency to believe that, because they have not found any special food to be the causation factor, the disease could not be of dietary origin, and that if it were a deficiency disease, fresh meat, milk and eggs might be supposed to supply this deficiency. They have collected evidence to show that of the 82 persons in families using fresh meat daily, 4.88 per cent. were pellagrins. This evidence is not considered conclusive because (1) it does not consider in sufficient detail the quantities of the various foods used; (2) it considers individual food-stuffs and their influence rather than the total diet; (3) the possibility that wheat-flour is mainly responsible for the deficiency has not been investigated sufficiently; (4) in an investigation of the diet of pellagrins it was found that among both the poorer and the well-to-do cases, there were some circumstances as a result of which the patient had lived on a very one-sided diet, in every case consisting chiefly of flour, corn products, or potatoes, with the addition of salt meat or canned vegetables; (5) pellagra is becoming more common in the south every year and an attempt has been made to explain this in accordance with the hypothesis that it is due to a dietary deficiency. The following facts indicate that changes have occurred in the dietary of the population as a whole during the last ten years: (1) The population itself has increased greatly, especially the industrial population among which the dietary is distinctly inferior to that of the remainder of the population. (2) There has been a great change in the purchasing power of the population, but there has also been a greater increase in the price of food so that there is a distinct tendency for poorer people to cut down the consumption of fresh meat, eggs, vegetables, and fruit and to increase the consumption of such staples as cornmeal, hominy, and flour. (3) Such tendencies were actually demonstrated in a number of cases investigated and statistics were collected which showed that the per capita consumption of fresh meat and of pure lard had decreased very considerably in the last ten years while the consumption of canned goods, cornmeal, and flour had increased. As a result of the investigations the conclusion is reached that the hypothesis that pellagra is caused by a dietary deficiency seems very plausible, and must be considered in subsequent studies of the disease.

---

**How Tuberculosis is Contracted.**—SMITH (*Jour. Med. Research*, 1915, xxxii, 417) states that the beginning of the tuberculous changes in the wall of the minute bronchi is not in itself proof that the bacilli are air-borne, nor does it prove that inhaled bacilli have penetrated directly the mucosa of the minute bronchia. The development of tuberculosis in the apical lobes in man is best accounted for by the less active aeration and less active lymph current. Rib pressure may contribute toward fixing the bacilli. Bacilli, deposited either from the